

Reply to: 3410

Date: September 27, 1994

Subject: 1994 FOREST INSECT DEFOLIATION MONONGAHELA NF

To: FOREST SUPERVISOR, MONONGAHELA NF

Results of the aerial sketchmapping survey made by the West Virginia Department of Agriculture (WVAGR) during July 1994 were recently made available to us. This information is the best available to assess defoliation by the gypsy moth and other forest insects on your forest. The defoliation information was most useful in planning the gypsy moth egg mass survey for the Cheat RD.

Unfortunately, several factors made it difficult to ground check most of the defoliated area. First, time was limited before refoiliation occurred on the affected trees. Secondly, much of the defoliation was located in remote, roadless areas. Thirdly, personnel available during the summer were limited.

Defoliation from gypsy moth, cherry scallop shell moth, and fall webworm are shown in the enclosures. Tables 1 to 3 summarize the defoliation from infestations by each of these moths as light, medium and heavy intensity classes. The 7.5-minute topographic maps locating the infestations were delivered separately to Gary Bustamente.

Gypsy Moth

The gypsy moth, Lymantria dispar (Linneaus), a tussock moth (Lymantriidae), remained the forest insect of greatest threat to the oak types in the northern portions of the Monongahela NF during 1994. Defoliation not only increased in extent, but shifted from the dry oak forests of the east side Ridge and Valley Province to the more mesic oak forests on the Allegheny Plateau west of the Allegheny Mountains.

During 1994, gypsy moth caterpillars noticeably defoliated a total of 3,059 forested acres within the Monongahela NF proclamation boundary on both the Cheat and Potomac RD. Refer to Table 1 which summaries the defoliation by light, medium and heavy classes for each of the 7.5-minute topographic maps on which WVAGR detected defoliation. Gary Bustamente had requested that this information be provided in this detail during our gypsy moth damage survey planning for 1994.

Gypsy moth defoliation for the last several years has declined forest-wide and has shifted from the east side to the west side of the MNF. Over the last several years, the following acres have been defoliated: 6,499 acres in 1992; 5,362 acres in 1993; 3,059 acres in 1994. Preliminary observations about the gypsy moth suppression project during last May indicate that defoliation was prevented in most of the spray blocks. The effectiveness of the Bt and Gypchek spraying at reducing potentially damaging populations is being evaluated for each spray block as part of our Treatment Monitoring Data Base (TMDB). The results of the TMDB work will be presented to you after post-spray gypsy moth egg mass surveys have been completed in November 1994.

Of the total 3,059 acres of 1994 defoliation, 2,044 acres (67%) occurred on NFS lands with the remainder (33%) on State and Private lands. For the first time, the majority of the defoliation (71%) occurred on the Cheat RD; the remainder

(29%) on the Petersburg RD. Because nearly all the defoliation on NFS lands was light to medium, the effects on the tree resource from the infestation were considered to be minimal.

The location and intensity of the 1994 defoliation has been a major factor, along with timber sale activity and developed recreation sites on the Cheat, Greenbrier, and Potomac RDs, in deciding where the gypsy moth egg mass surveys should be done in August and September. FHP Staff entomologist with assistance from your staff will be preparing the Biological Evaluation of gypsy moth populations to determine current outbreak densities and trends, and forest damage to expect on the Monongahela NF in 1995. Results of the Biological Evaluation will be available in late in October for the Monongahela NF to use in any gypsy moth suppression planning for a project next May. A final report will be prepared later in 1994 as per the schedule agreed upon with Gary Bustamente.

Cherry Scallop Shell Moth

The cherry scallop shell moth, Hydria prunivorata Ferguson, is a looper (Geometridae) which defoliates only black cherry trees. During mid-summer, its larvae web leaves into nests and feed together in groups on the upper leaf surface. Populations of this species in 1994 were at outbreak densities throughout northern WV into northern PA. On the Monongahela NF, the outbreaks caused complete reddening of black cherry trees on 2,855 acres centered along Middle Mountain. Eighty-two percent of this damage occurred on NFS lands of the Greenbrier RD.

Black cherry trees defoliated by the cherry scallop shell moth may lose vigor and become susceptible to bark beetles, especially when outbreaks persist for several years and where soils are poorly drained. Extensive black cherry dieback and tree mortality have not been previously documented from this defoliation during outbreaks in the 1970's and 1980's on the Allegheny NF.

Fall Webworm

The fall webworm, Hypantria cunea (Drury), is a tiger moth (Arctiidae) causing unsightly nests which are more important to shade tree and ornamental plantings than to forest trees. This insect caused 341 acres of heavy defoliation on the Greenbrier RD this year.

The larvae of this moth feed gregariously on leaves within silken webs which they construct over foliage during the late summer and early autumn. Often one or more entire branches, and sometimes even entire trees are enclosed in large webs by the time this insect finishes its feeding. Black cherry is usually affected most commonly, but other hosts include, black walnut, aspen, ash and several hardwoods. Because the defoliation occurs late in the growing season, permanent tree damage is limited to growth loss during the following growing season. Branch mortality and tree death from this insect are rare and might occur if several years of heavy defoliation coincide with wet sites and the presence of secondary insects, such as bark beetles.



PETER A. RUSH

Field Representative
Forest Health Protection

Enclosures

cc: District Rangers, Cheat, Greenbrier and Potomac RDs
G.Hertel, AO, w/o enclosures
R.McKinney, R-9, w/o enclosures
J.Hacker, WVAGR, w/o enclosures

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Table 1. 1994 Gypsy Moth Defoliation from WVAGR Aerial Sketchmapping Survey,
Acres by Defoliation Class by Ownership within NFS Proclamation Boundary,
Cheat, Greenbrier and Potomac RD, Monongahela NF

TOPO MAP & MON NF REF #	DEFOLIATION CLASS	-----OWNERSHIP-----		
		NFS	NON-NFS	TOTAL
Saint George 4	Light	132	1	133
	Medium	64	3	67
	Heavy	0	0	0
	Subtotal	196	4	200
Leadmine 5	Light	0	430	430
	Medium	0	0	0
	Heavy	0	0	0
	Subtotal	0	430	430
Davis 6	Light	2	209	211
	Medium	0	0	0
	Heavy	0	0	0
	Subtotal	2	209	211
Montrose 7	Light	154	27	181
	Medium	0	0	0
	Heavy	0	0	0
	Subtotal	154	27	181
Parsons 8	Light	7	0	7
	Medium	412	0	412
	Heavy	0	0	0
	Subtotal	419	0	419
Mozark Mountain 9	Light	214	46	260
	Medium	84	0	84
	Heavy	0	0	0
	Subtotal	298	46	344
Blackwater Falls 10	Light	0	51	51
	Medium	37	0	37
	Heavy	0	0	0
	Subtotal	37	51	88
Blackbird Knob 11	Light	60	0	60
	Medium	0	0	0
	Heavy	0	0	0
	Subtotal	60	0	60

Table 1 (cont). 1994 Gypsy Moth Defoliation from WVAGR Aerial Sketchmapping Survey, Acres by Defoliation Class by Ownership within NFS Proclamation Boundary, Cheat, Greenbrier and Potomac RD, Monongahela NF

TOPO MAP & MON NF REF #	DEFOLIATION CLASS	OWNERSHIP		
		NFS	NON-NFS	TOTAL
Bowden 13	Light	0	0	0
	Medium	284	0	284
	Heavy	0	0	0
	Subtotal	284	0	284
Laneville 15	Light	0	22	22
	Medium	6	4	10
	Heavy	0	0	0
	Subtotal	6	26	32
Hopeville 16	Light	10	0	10
	Medium	15	0	15
	Heavy	0	0	0
	Subtotal	25	0	25
Petersburg West 17	Light	20	130	150
	Medium	5	76	81
	Heavy	0	0	0
	Subtotal	25	206	231
Whitmer 21	Light	0	0	0
	Medium	427	0	427
	Heavy	0	0	0
	Subtotal	427	0	427
Sinks of Gandy 28	Light	27	0	27
	Medium	49	1	50
	Heavy	0	0	0
	Subtotal	76	0	77
Circleville 30	Light	0	0	0
	Medium	0	0	0
	Heavy	17	3	20
	Subtotal	17	3	20
Franklin 31	Light	0	0	0
	Medium	18	12	30
	Heavy	0	0	0
	Subtotal	18	12	30
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GRAND TOTALS		2,044 ACRES	1,015 ACRES	3,059 ACRES

Table 2. 1994 Cherry Scallop Shell Moth Defoliation from WVAGR Aerial Sketchmapping Survey, Acres by Defoliation Class by Ownership within NFS Proclamation Boundary, Greenbrier RD, Monongahela NF

TOPO MAP & MON NF REF #	DEFOLIATION CLASS	OWNERSHIP		
		NFS	NON-NFS	TOTAL
Bowden 13	Light	0	0	0
	Medium	100	0	100
	Heavy	0	0	0
	Subtotal	100	0	100
Beverly East 19	Light	0	0	0
	Medium	111	0	111
	Heavy	0	0	0
	Subtotal	111	0	111
Gladys 20	Light	42	246	288
	Medium	717	24	741
	Heavy	629	133	762
	Subtotal	1,388	403	1,791
Whitmer 21	Light	0	0	0
	Medium	0	67	67
	Heavy	0	0	0
	Subtotal	0	67	67
Gandy 28	Light	178	0	178
	Medium	464	49	513
	Heavy	88	7	95
	Subtotal	730	56	786
GRAND TOTALS		2,329 ACRES	526 ACRES	2,855 ACRES

Table 3. 1994 Fall Webworm Defoliation from WVAGR Aerial Sketchmapping Survey,
Acres by Defoliation Class by Ownership within NFS Proclamation Boundary,
Greenbrier RD, Monongahela NF

7.5 MINUTE		DEFOLIATION	-----OWNERSHIP-----		
MON	NF REF #	CLASS	NFS	NON-NFS	TOTAL
Glady		Light	0	0	0
20		Medium	0	0	0
		Heavy	341	0	341
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GRAND TOTALS			341 ACRES	0 ACRES	341 ACRES